REMARKS

Claims 1-30 are pending in this application upon entry of the present amendment.

37 CFR 1.75(c) Objections

Claims 5, 24 and 26 stand objected to under 37 CFR § 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. The Applicant respectfully requests the withdrawal of these objections because claims 5, 24 and 26 are in compliance with 37 CFR § 1.75(c).

Claims 5 and 24 are in Compliance

In making the objections, the Examiner believes that if the control circuit aborts the fetched instruction if the branch is predicted to be taken, then the control circuit must receive a transmitted branch taken signal from the branch prediction unit. This assumption is not necessarily true. In one embodiment of the present invention, the branch prediction unit may set a flag, for a period of time, indicating that a branch is predicted to be taken, and the control circuit would periodically and actively check this flag instead of passively receiving it from the branch prediction unit. Accordingly, claims 5 and 24 do further limit the subject matter of previous claims, and the Applicant respectfully requests the withdrawal of the 37 CFR § 1.75(c) objections against claims 5 and 24.

Claim 26 is in Compliance

Claim 16 has been amended to recite "a next instruction" to contrast with "a next sequential instruction" recited by claim 26 Accordingly, claim 26 does further limit the subject matter of a previous claim, and the Applicant respectfully requests the withdrawal of the 37 CFR § 1.75(c) objection against claim 26.

Informality Objection

Claim 7 stands objected to for an informality that requires correction. The claim has been corrected as requested, and the Applicant respectfully requests the withdrawal of the objection against claim 7.

35 USC § 112 Rejections

Claims 6, 8, 25 and 26 stand rejected under 35 USC § 112 as being indefinite. The claims have been amended and are now in compliance, and the Applicant respectfully requests the withdrawal of the 35 USC § 112 rejections against claims 6, 8, 25 and 26.

35 USC § 102(b) Rejections

Claims 1, 4-5, 7-8, 10-14, 16-20, 23-24, and 26 stand rejected under 35 USC § 102(b) as anticipated by *Schroter* (U.S. Patent No. 6,338,133). The Applicant respectfully requests the withdrawal of these rejections because *Schroter* does not teach nor suggest the subject matters of claims 1, 4-5, 7-8, 10-14, 16-20, 23-24, and 26.

Claims 1, 4-5, and 7 Define Over the Cited Art

Consider claim 1, which recites in part:

wherein the control circuit is to abort the fetched instruction at a pre-decoding stage **if the branch is predicted to be taken**.

Schroter does not teach or suggest this subject matter. In *Schroter*, "[i]f a branch is **resolved** . . . any sequential instructions following the branch that have been pre-fetched are discarded." *Schroter*, col. 1, lines 35-39. (Emphasis added) The discarding of pre-fetched instructions happens when a branch is resolved, which means the outcome of the branching decision is certain. This interpretation of the word "resolved" finds further support in *Schroter*, "[i]f the branch that was predicted as taken is resolved as mispredicted. . ." *Schroter*, col. 1, lines 49-50. It indicates that "resolved" is used to characterize a different level of certainty than "predicted,"

and because "resolved" can render a branching decision from "predicted" to "mispredicted," the only reasonable interpretation for "resolved" is "certain or known." Thus, "a branch is resolved" means the branching decision is now certain or known. Here, in contrast, the invention of claim 1 unambiguously indicates that it aborts the fetched instructions prior to the resolution of the branch. Accordingly, *Schroter* fails to anticipate every element presented in claim 1, and the Applicant respectfully requests the withdrawal of the 35 USC § 102(b) rejection against claim 1 and dependent claims 4-5 and 7.

Claims 8 and 10-13 Define Over the Cited Art

Consider claim 8, which recites as amended in part:

terminating a process associated with the next instruction **if the branch is predicted to be taken.**

As mentioned above, *Schroter* does not teach or suggest this subject matter. Accordingly, *Schroter* fails to anticipate every element presented in claim 8, and the Applicant respectfully requests the withdrawal of the 35 USC § 102(b) rejection against claim 8 and dependent claims 10-13.

Claim 14 Defines Over the Cited Art

Consider claim 14, which recites in part:

means coupled to the branch prediction unit for aborting the next sequential instruction **if the branch is predicted to be taken.**

As mentioned above, *Schroter* does not teach or suggest this subject matter. Accordingly, *Schroter* fails to anticipate every element presented in claim 14, and the Applicant respectfully requests the withdrawal of the 35 USC § 102(b) rejection against claim 14.

Claims 16-20, 23-24 and 26 Define Over the Cited Art

Consider claim 16, which recites as amended in part:

the control circuit to abort the next instruction **if the branch is predicted to be taken.**

As mentioned above, *Schroter* does not teach or suggest this subject matter. Accordingly, *Schroter* fails to anticipate every element presented in claim 16, and the Applicant respectfully requests the withdrawal of the 35 USC § 102(b) rejection against claim 16 and dependent claims 17-20, 23-24 and 26.

35 USC 103(a) Rejections

Claims 2-3, 6, 9, 15, 21-22, 25, 27 and 29-30 stand rejected under 35 USC § 103(a) as unpatentable over *Schroter* (U.S. Patent No. 6,338,133) in view of *Thusoo et al* (U.S. Patent No. 5,809,272). The Applicant respectfully requests withdrawal of these rejections because the references do not teach or suggest the subject matters of claims 2-3, 6, 9, 15, 21-22, 25, 27 and 29-30.

Claims 2-3, 6, 9, 15, 21-22 and 25 Define Over the Cited Arts

In order to establish *prima facie* obviousness, the cited references must teach or suggest each and every element of the rejected claim. As mentioned in the 35 USC § 102(b) rejection rebuttal above, *Schroter* does not teach or suggest every element of the subject matters of claims 1, 8, 14 and 16. *Thusoo et al* does not bridge these gaps. It makes no references to the discarding of fetched instructions and certainly not of the timing thereof. Therefore, the references, in isolation or combination, do not teach or suggest the invention as claimed here, and claims 1, 8, 14 and 16 are not believed to be obvious in view of them. Accordingly, the Applicant respectfully request the withdrawal of the 35 USC § 103(a) rejection against claims 2-3, 6, 9, 15, 21-22 and 25, the dependent claims of nonobvious independent claims 1, 8, 14 and 16.

Claim 27 Defines Over the Cited Arts
Consider claim 27, which recites as amended in part:
a circuit to open the latch to prevent the information associated with the next sequential instruction from being output to the instruction length decoder **if** . . . **a branch has been predicted to be taken.**

As mentioned above and following the same reasoning as the 35 USC § 102(b) rejection rebuttals for claim 1, the references, in isolation or combination, do not teach or suggest the invention as claimed here, and claim 27 is not believed to be obvious in view of them. Accordingly, the Applicant respectfully request the withdrawal of the 35 USC § 103(a) rejection against claim 27.

Claims 29-30 Define Over the Cited Arts

Consider claim 29, which recites as amended in part:

a branch prediction unit to determine that a branch is to be taken and generate a branch taken signal . . . wherein responsive to the received branch taken signal, the cache logic array is to abort further processing of the data associated with the next sequential instruction.

As mentioned above and following the same reasoning as the 35 USC § 102(b) rejection rebuttals for claim 1, the references, in isolation or combination, do not teach or suggest the invention as claimed here, and claim 29 is not believed to be obvious in view of them. Accordingly, the Applicant respectfully request the withdrawal of the 35 USC § 103(a) rejection against claim 29 and dependent claim 30.

CONCLUSION

All claims are allowable over the cited art. The Applicant respectfully requests the allowance of the application.

The Examiner is invited to call the undersigned at (202) 220-4200 to discuss any information concerning this application. The Office is hereby authorized to charge any fees or credit any overpayment to Deposit Account No. 11-0600.

Respectfully submitted,

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Shawn O'Dowd
Registration No. 34,687

KENYON & KENYON LLP
1500 K STREET, NW, SUITE 700
WASHINGTON, DC 20005-1257
TEL.: (202) 220-4200
Fax.: (202) 220-4201